# EXERCISE # 1

**Q.1** For which of these would you use a histogram to show the data ?

(a) The number of letters for different areas in a postman's bag.

(b) The height of competitors in an athletics meet.

(c) The number of cassettes produced by 5 companies.

(d) The number of passengers boarding trains from 7 : 00 a.m. to 7 : 00 p.m. at a station.

Give reasons for each.

**Q.2** The shoppers who come to a departmental store are marked as : man (M), woman(W), boy(B) or girl(G). The following list gives the shoppers who came during the first hour in the morning :

W W W G B W W M G G M M W W W W
G B M W B G G M W W M M W W W M
W B W G M W W W W G W M M W W M
W G W M G W M M B G G W

Make a frequency distribution table using tally marks. Draw a bar graph to illustrate it.

**Q.3** The weekly wages (in Rs) of 30 workers in a factory are.

830, 835, 890, 810, 835, 836, 869, 845, 898, 890, 820, 860, 832, 833, 855, 845, 804, 808, 812, 840, 885, 835, 835, 836, 878, 840, 868, 890, 806, 840

Using tally marks make a frequency table with intervals as 800-810, 810-820 and so on.

**Q.4** Draw a histogram for the frequency table made for the data in Question 3, and answer the following questions.

(i) Which group has the maximum number of workers ?

(ii) How many workers earn Rs 850 and more ?

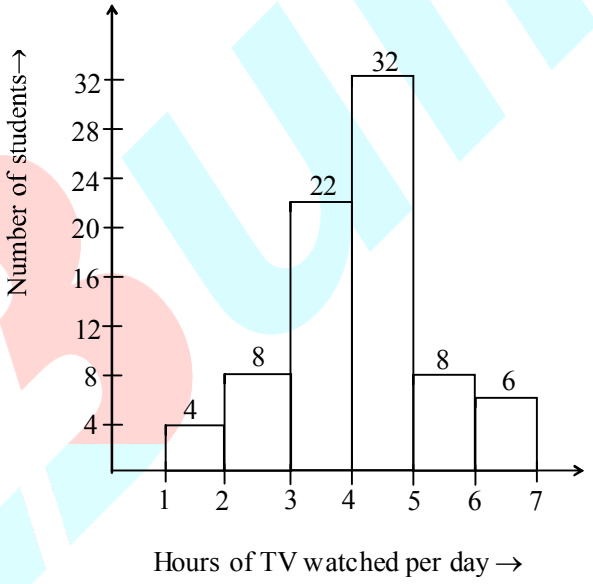
(iii) How many workers earn less than Rs 850 ?

**Q.5** The number of hours for which students of a particular class watched television during holidays is shown through the given graph. Answer the following

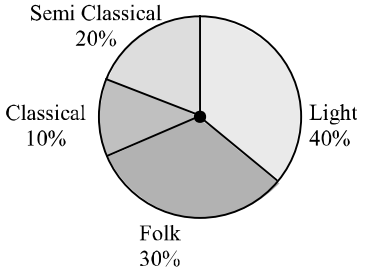
(i) For how many hours did the maximum number of students watch TV ?

(ii) How many students watched TV for less than 4 hours ?

(iii) How many students spent more than 5 hours in watching TV ?




**Q. 6** A survey was made to find the type of music that a certain group of young people liked in a city. Adjoining pie chart shows the findings of this survey.




From this pie chart answer the following :

(i) If 20 people liked classical music, how many young people were surveyed ?

(ii) Which type of music is liked by the maximum number of people ?

(iii) If a cassette company were to make 1000 CD's, how many of each type would they make ?

**Q.7** A group of 360 people were asked to vote for their favourite season from the three seasons rainy, winter and summer.

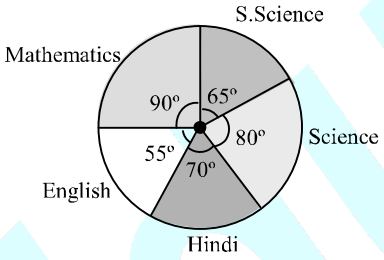
| Season | No. of votes |
|---|---|
| Summer | 90 |
| Rainy | 120 |
| Winter | 150 |

(i) Which season got the most votes ?

(ii) Find the central angle of each sector.

(iii) Draw a pie chart to show this information.

**Q.8** The adjoining pie chart gives the marks scored in an examination by a student in Hindi, English, Mathematics, Social Science and Science. If the total marks obtained by the students were 540, answer the following questions.




(i) In which subject did the student score 105 marks ?

(**Hint** : for 540 marks, the central angle = 360°. So, for 105 marks, what is the central angle ?)

(ii) How many more marks were obtained by the student in Mathematics than in Hindi ?

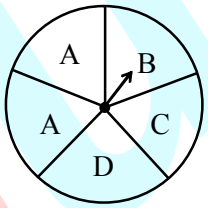
(iii) Examine whether the sum of the marks obtained in Social Science and Mathematics is more than that in Science and Hindi.

(**Hint** : Just study the central angles)

**Q.9** The number of students in a hostel, speaking different languages is given below. Display the data in a pie chart.

| **Language** | ***Number of students*** |
|---|---|
| Hindi | *40* |
| English | *12* |
| Marathi | *9* |
| Tamil | *7* |
| Bengali | *4* |
| ***Total*** | *72* |

**Q.10** List the outcomes you can see in these experiments.




(a) Spinning a wheel

(b) Tossing two coins together

**Q.11** When a die is thrown, list the outcomes of an event of getting

(i) (a) a prime number

(b) not a prime number

(ii) (a) a number greater than 5

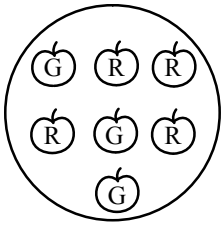
(b) a number not greater than 5

**Q.12** Find the

(a) Probability of the pointer stopping on D in (Question 1-(a)) ?

(b) Probability of getting an ace from a well shuffled deck of 52 playing cards ?

(c) Probability of getting a red apple.(see figure below)



**Q.13** Numbers 1 to 10 are written on ten separate slips (one number on one slip), kept in a box and mixed well. One slip is chosen from the box without looking into it. What is the probability of-

(i) getting a number 6 ?

(ii) getting a number less than 6 ?

(iii) getting a number greater than 6 ?

(iv) getting a 1-digit number ?

**Q.14** If you have a spinning wheel with 3 green sectors, 1 blue sector and 1 red sector, what is the probability of getting a green sector ? What is the probability of getting a non blue sector ?

**Q.15** In a pack of cards there are 52 cards. 4 suits-2 black, 2 red. So each suit has 13 cards. What is the probability of drawing a red card ?

# ANSWER0 KEY

## EXERCISE # 1

**1.** (b), (d). In all these cases data can be divided into class intervals.

**2.**

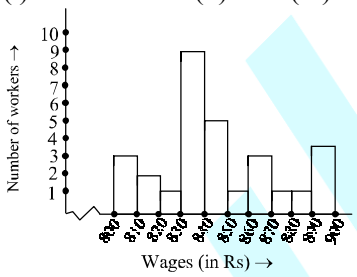
| Shopper | Tally marks | Number |
|---|---|---|
| W | 𝍸 𝍸 𝍸 𝍸 𝍸 III | 28 |
| M | 𝍸 𝍸 𝍸 | 15 |
| B | 𝍸 | 5 |
| G | 𝍸 𝍸 II | 12 |

**3.**

| Interval | Tally marks | Frequency |
|---|---|---|
| 800 - 810 | III | 3 |
| 810 - 820 | II | 2 |
| 820 - 830 | I | 1 |
| 830 - 840 | 𝍸 IIII | 9 |
| 840 - 850 | 𝍸 | 5 |
| 850 - 860 | I | 1 |
| 860 - 870 | III | 3 |
| 870 - 880 | I | 1 |
| 880 - 890 | I | 1 |
| 890 - 900 | IIII | 4 |
| | **Total** | **30** |

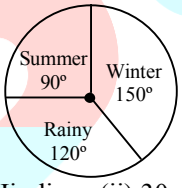
**4.** (i) 830 – 840 (ii) 10 (iii) 20

**5.** (i) 4 – 5 hours (ii) 34 (iii) 14



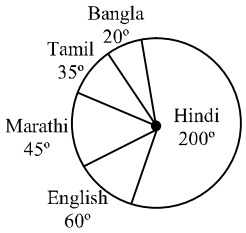

**6.** (i) 200 (ii) Light music
(iii) Classical – 100, Semi classical – 200, Light – 400, Folk - 300

**7.** (i) Winter (ii) Winter – 150º, Rainy – 120º, Summer – 90º
(iii)




**8.** (i) Hindi (ii) 30 marks (iii) Yes

**9.**




**10.** (a) Outcomes → A, B, C, D
(b) HT, HH, TH, TT (Here HT means Head on first coin and Tail on the second coin and so on).

**11.** Outcomes of an event of getting
(i) (a) 2, 3, 5 (b) 1, 4, 6
(ii) (a) 6 (b) 1, 2, 3, 4, 5

**12.** (a) 1/5 (b) 1/13 (c) 4/7

**13.** (i) 1/10 (ii) 1/2 (iii) 2/5 (iv) 9/10

**14.** Probability of getting a green sector = $\frac{3}{5}$, probability of getting a non-blue sector = $\frac{4}{5}$

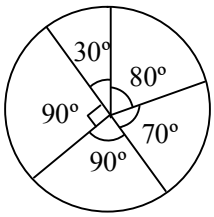
**15.** $\frac{1}{2}$

# EXERCISE # 2

**Q.1** Read the following pie chart and answer the questions that follow :

| Game | *Angle* |
|---|---|
| Cricket | *90°* |
| Football | *70°* |
| Table Tennis | *80°* |
| Tennis | *30°* |
| *Hockey* | *90°* |

If the school spent Rs 72000 on sports,



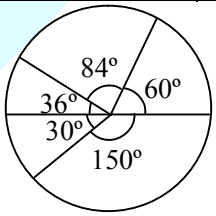

(a) how much did they spend on cricket ?

(b) how much more was spent on table tennis than tennis ?

(c) how much did they spend on football ?

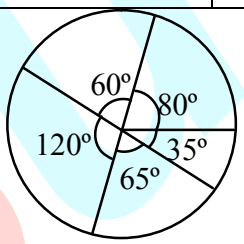
**Q.2** The marks in different subjects of a student of Class VIII are given in the pie chart. If the total marks is 600, find his marks in each subject.

| Subject | *Angle* |
|---|---|
| Maths | *150°* |
| English | *60°* |
| Science | *84°* |
| Social Science | *36°* |
| *Language* | *30°* |




**Q.3** A survey was conducted on the expenses that an average man incurs through the year. Read the given pie chart and answer the questions given

| Item | *Angle* |
|---|---|
| Food | *80°* |
| Clothing | *60°* |
| Others | *120°* |
| Education | *65°* |
| *Rent* | *35°* |




If his annual income is Rs 360000, find

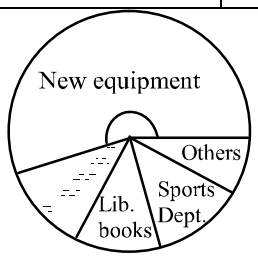
(a) the amount spent on Education.

(b) how much did he spend on food ?

(c) whether the amount spent on others is more or less than that spent on food and clothing and by how much ?

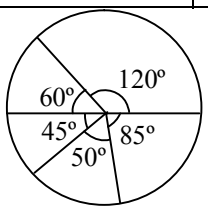
**Q.4** The following pie chart represents the expenses of a school in the month of June. Calculate the central angle in each case.

| Item | *Expenses (Rs)* |
|---|---|
| New equipment | *40000* |
| Furniture | *6000* |
| Lib. books | *10000* |
| Sports | *12000* |
| *Others* | *4000* |



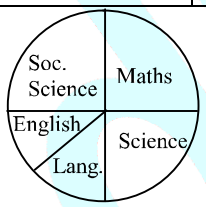
**Q.5** From the pie chart given below, find the amount spent on different sports in a club for the year. The total expense is Rs 720000.

| Item | *Angle* |
|---|---|
| Athletic team | *120°* |
| Football team | *85°* |
| Volleyball team | *50°* |
| Cricket team | *45°* |
| *Hockey team* | *60°* |




**Q. 6** The pie chart depicts the marks obtained by a student in his final exams. Write what percentage he got in each subject.

| Item | *Angle* |
|---|---|
| Maths | *90°* |
| Science | *90°* |
| Lang. | *50°* |
| English | *40°* |
| *Soc. Science* | *90°* |




**Q.7** Fill in the blanks in the following data :

(a)

| Item | Angle | *Expenses* |
|---|---|---|
| Clothing | – | *2800* |
| Rent | 90° | – |
| Education | – | *1800* |
| Food | – | *3600* |
| *Travel* | 65° | – |
| *Total* | *360°* | *14400* |

(b)

| Item | Students | *Angle* |
|---|---|---|
| Bus | 120 | – |
| Cycle | – | *90°* |
| Car | – | *40°* |
| Van | 240 | – |
| Scooter | – | *50°* |
| *Total* | *720* | *360°* |

(c)

| Item | Angle | *No. of students* |
|---|---|---|
| Bhangra | 90° | – |
| Odissi | – | *180* |
| Kathak | 80° | – |
| Kathakali | – | *150* |
| *Bharatanatyam* | – | *240* |

Total number of students learning dance is 1080.

**Q.8** Find the probability of a 6 appearing when a dice is thrown.

**Q.9** What is the probability of drawing a red ball in a bag with 6 red balls, 8 white and 4 blue balls ?

**Q.10** Cards are marked with the letters

M, A, T, H, S and shuffled well.

What is the probability of M being taken out?

**Q.11** The letters of the word 'experiment' are marked on cards. Find the probability of drawing the following cards marked :

(a) e (b) m (c) t

**Q.12** A spinner, circular in shape, is divided into 8 equal sectors. The colours red, blue, green and white are marked on two sectors each. Find the probability of the pointer showing white.

**Q.13** What is the probability of getting a sum of 3 when two dice are thrown together ? Write the favourable outcomes.

**Q.14** Write the sample space when two coins are thrown together.

**Q.15** What is the probability of getting one head when two coins are thrown together ?

**Q.16** Fill in the blanks with the probability in each of the following cases of :

(a) A dice

P(4) = _____

(b) A spinner with 18 markings

P(7) = _____

(c) A pack of cards

P(Red K) = _____

P(K) = _____

(d) Two dice

P(Sum 5) = _____

(e) A bag of 3 red, 2 white, 4 yellow balls

P(White ball) = _____

# ANSWER KEY

## EXERCISE # 2

**1.** (a) Rs 18000 (b) Rs 10000 (c) 140000

**2.** Maths = 250, English = 100, Science = 140, SST = 60, Language = 50

**3.** (a) Education = Rs 65000 (b) Food = Rs 80000 (c) more by Rs 80000

**4.** New equipment = 200º, Furniture = 30º, Library books = 50º, Sports = 60º, Other = 20º

**5.** Athletic = Rs 240000, Football = Rs 170000, Volleyball = Rs 100000, Cricket = Rs 90000, Hockey = Rs 120000

**6.** SST = 25%, Maths = 25%, English = 11.11%, Sc = 25%, Language = 13.88 %

**7.** (a) 70º, 3600, 45º, 90º 2600 (b) 60º, 180, 80, 120º, 100 (c) 270, 60º, 240, 50º, 80º

**8.** 1/6 **9.** 6/18 **10.** 1/5 **11.** (a) 3/10 (b) 1/10 (c) 1/10 **12.** 2/8

**13.** $\frac{2}{36}$ {(2, 1), (1, 2)} **14.** {HT, TH, HH, TT} **15.** 2/4

**16.** (a) 1/6 (b) 1/18 (c) 2/52, 4/52 (d) 4/36 (e) 2/9